IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit 3644	:
	: **COMPRESSED GAS POWERED**
Examiner Stephen A. Holzen	: **GUN SIMULATING THE RECOIL**
	: **OF A CONVENTIONAL**
In re application of	: **FIREARM**
	:
MARK SCHAVONE	:
	:
Serial No. 09/756,891	:
	:
Filing Date January 9, 2001	: **(Attorney Docket No. 286308-00001)**

DECLARATION OF MARK SCHAVONE UNDER 37 CFR § 1.132

I, MARK SCHAVONE, hereby state the following:

1. I have ten years experience as a job shop machinist.

2. In addition to #1 above, I have sixteen years experience as a tool maker, tool room machinist, mold maker, and programmer of computer numerical controlled machine tools.

3. In addition to #1 and #2 above, I have three years experience as a mold and tool designer.

4. I have actively performed gunsmithing as a hobby for at least 20 years.

5. For at least three years in addition to #4, I have performed reactivation of registered DEWAT guns for Class II federal license holders, barrel manufacture, and designed and made my own machines and tooling for gun barrel manufacture.

6. I have been an active recreational shooter of shotgun, rifles, and handguns for 36 years.

7. Based on the above experience, I am thoroughly familiar with the design, manufacture, shooting, and handling characteristics of various firearms and air guns, including the felt recoil generated by each.

8. I have fired approximately 1.5 million rounds of ammunition through prototypes of the air gun disclosed and claimed in my above-referenced patent application.

9. I found the felt recoil to have substantially the same level of recoil as that generated by a powder propelled firearm, requiring me to reacquire the target in the sights after each shot. I also found the recoil to be sufficient to get a shooter accustomed to the recoil of a conventional, powder-propelled firearm.

10. A typical air gun generating recoil only through Newton's Third Law and/or through incidental movement of parts during cycling will generate substantially zero felt recoil, and will not force a shooter to reacquire the sights after each shot.

11. I have calculated the recoil of one preferred embodiment of my air gun to be about four to five ft.-lbs. when set up for light recoil, and about nine ft.-lbs. when set up for heavy recoil. Other embodiments could be set up for other levels of recoil. For example, up to 23 ft.-lbs. of recoil could be generated if compromising the cyclic rate and gas consumption rate is acceptable for the desired application.

12. I have calculated the recoil of a conventional M16 rifle to be about 13 ft.-lbs. without a muzzle break, and as low as five to seven ft.-lbs. with a muzzle brake, depending on the design of the muzzle brake. A typical M16 rifle as issued to the U.S. military is equipped with a flash suppressor that doubles as a muzzle brake.

13. The following experts in the field of firearms have fired my air gun, experienced the recoil, and recognized that it produces substantially the same level of recoil as a conventional firearm instead of the recoil of an air gun: Patrick Squire, former Vice-President of Colt, Interarms, and Springfield Armory, former Instructor of Small Arms at West Point, and former Airborne Ranger Second Lieutenant in combat in Vietnam; Dennis M. McDonough, Deputy Chief of Police, Township of South Park, and also a traveling police firearms instructor who teaches at police academies throughout the United States, a letter from whom is attached hereto as Exhibit A; Jess I. Galan, Forensics Firearms Examiner for the Miami-Dade Police and publisher of Airgun Digest; and others.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the above-referenced patent application or any patent issued thereon.

Respectfully submitted,

Mark Schavone

09/30/03
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit 3644	:
Examiner Stephen A. Holzen	: **COMPRESSED GAS POWERED GUN SIMULATING THE RECOIL OF A CONVENTIONAL**
In re application of	: **FIREARM**
MARK SCHAVONE	:
Serial No. 09/756,891	:
Filing Date January 9, 2001	: **(Attorney Docket No. 286308-00001)**

DECLARATION OF JOHN T. MCGOVERN UNDER 37 CFR § 1.132

I, JOHN T. MCGOVERN, hereby state the following:

1. I obtained a Bachelor of Science in Mechanical Engineering Technology from Pennsylvania State University in December of 1996.

2. I am presently a Section Engineering Manager at FN Manufacturing, Inc., a manufacturer of semi-automatic rifles and handguns, and automatic weapons, and also the largest manufacturer of M16 rifles for the U.S. military. I have held this position for the past year.

3. Prior to becoming a Section Engineering Manager, I was a Senior Engineer at FN Manufacturing Inc. for one year.

4. My primary responsibilities at FN Manufacturing have been designing pistols, automatic rifles, and pneumatic weapons.

5. Prior to joining FN, I worked as a Senior Engineer at General Dynamics and Olin Corp., where I was involved in the design of firearms ammunition.

6. I have been named as an inventor on the following U.S. patents in the field of firearms ammunition: 5,183,961; 5,277,096; 5,277,120; 5,277,121; 5,635,660; 5,640,054; and 6,085,660.

7. I have been an active recreational shooter of shotgun, rifles, and handguns for 36 years.

8. Based on the above experience, I am thoroughly familiar with the design, manufacture, shooting, and handling characteristics of various firearms and air guns, including the felt recoil generated by each.

9. I have fired about 100 rounds of ammunition through the air gun invented by Mark Schavone, disclosed and claimed in the above-referenced patent application.

10. I found the felt recoil to be a realistic approximation of that generated by a powder propelled firearm, requiring me to reacquire the target in the sights after each shot.

11. A typical air gun generating recoil only through Newton's Third Law and/or through incidental movement of parts during cycling will generate substantially zero felt recoil, and will not force a shooter to reacquire the sights after each shot.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the above-referenced patent application or any patent issued thereon.

Respectfully submitted,

John T. McGovern

9.26.03
Date